

Title (en)  
ENERGY EFFICIENT HIGH POWER PLASMA TORCH

Title (de)  
ENERGIEEFFIZIENTER HOCHLEISTUNGSPASMABRENNER

Title (fr)  
TORCHE À PLASMA HAUTE PUISSANCE ÉCOÉNERGÉTIQUE

Publication  
**EP 3143845 A4 20180314 (EN)**

Application  
**EP 15793081 A 20150519**

Priority  
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Abstract (en)  
[origin: WO2015172237A1] An apparatus is disclosed wherein an electric arc is employed to heat an injected gas to a very high temperature. The apparatus comprises four internal components: a button cathode and three cylindrical co-axial components, a first short pilot insert, a second long insert and an anode. Vortex generators are located between these components for generating a vortex flow in the gas injected in the apparatus and which is to be heated at very high temperature by the electric arc struck between the anode and cathode. Cooling is provided to prevent melting of three of the internal components, i.e. the cathode, the anode and the pilot insert. However, to limit the heat loss to the cooling fluid, the long insert is made of an insulating material. In this way, more electrical energy is transferred to the gas.

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JP 2023060181 A 20230427; JP 6887251 B2 20210616; JP 7271489 B2 20230511; US 2017086284 A1 20170323

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